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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,268	02/05/2001	Uwe Sydon	01P7445US	3394

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Intellectual Property Department
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EXAMINER	
NGUYEN, ALAN V	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/777,268	Applicant(s) SYDON ET AL.	
	Examiner Alan Nguyen	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 12-24* is/are rejected.

7)☒ Claim(s) *8-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: It does not identify the citizenship of inventor Uwe Sydon.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7 and 12-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hlasny et al (US 6,603,799) in view of Wright et al (US 5,491,700) hereafter Hlasny and Wright.

Regarding **claim 1** Hlasny discloses a cordless communication system capable of providing voice and data service, comprising a first device **(transmitter 11)(Hlasny discloses a method and system for that detects the frequency hopping sequence that utilizes the HomeRF SWAP system; col 3 lines 22-50; Hlasny also discloses the SWAP specification version 1.2 is incorporated by reference)**;

Hlasny discloses a second device capable of wireless communication with the first device via an air interface **(receiver 14 that receives frequencies from transmitter; for example see col 3 lines 25-40 and figure 1)**;

Hlasny discloses where the air interface employs a frame structure suitable for communication of asynchronous information using a HomeRF SWAP protocol and isochronous information using a TDMA protocol **(wireless communication system that utilizes the HomeRF SWAP system using TDMA for voice services; col 3 lines 45-50)**.

Hlasny fails to expressly disclose the exchanging of isochronous information using a WDCT protocol.

Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) format to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 2** Hlasny, as modified with the motivation from above, discloses where the frame structure includes at least one time slot suitable for communicating the isochronous information if voice service is requested **(The SWAP specification version 1.2, incorporated by reference, shows a time slot used for isochronous traffic; page 6, figure 3)**. Hlasny further fails to disclose where the time slot is a WDCT time slot. Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57)**. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) format to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 3, 7, and 14** Hlasny further fails to disclose where the air interface utilizes a WDCT carrier frequency, bandwidth and bit duration while the at least one WDCT time slot is transmitted **(Wright discloses DCT transmission system uses a plurality of individual carrier signals with a certain bandwidth and a time slot length; see col 1 lines 48-67 and col 2 lines 1-4)**. It would have been obvious to one

having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) format to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claims 4, 5, 15, 16, 23, and 24** Hlasny discloses where the at least one WDCT time slot comprises a WDCT transmit slot and a WDCT receive slot, the WDCT receive slot directly following the WDCT transmit slot in the frame structure; further including the following time to be approximately 5 ms. **(figure 3, second frame, shows downlink slot #1, followed by uplink slot #1; SWAP spec 1.2. In figure 3, the length of the data frame varies according to the amount of voice connections. The following time of the receive slot looks to be 5 ms)**. Hlasny further fails to disclose where the time slot is a WDCT time slot. Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57)**. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) format to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The

motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 6** Hlasny further fails to disclose where the frame structure includes a WDCT control channel suitable for controlling devices of the cordless communication using the voice service when no voice service is requested **(Wright discloses that each DCT transmission frame includes channel indication and control data fields; col 3 lines 5-11)**. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) frame format to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claims 12 and 17** Hlasny discloses a cordless communication system capable of providing voice and data service, comprising a first device;

Hlasny discloses a second device capable of wireless communication with the first device via an air interface employing a frame structure suitable for transmission of asynchronous information utilizing a HomeRF SWAP protocol **(transmitter 11)(Hlasny discloses a method and system for that detects the frequency hopping sequence**

that utilizes the HomeRF SWAP system; col 3 lines 22-50; receiver 14 that receives frequencies from transmitter; for example see col 3 lines 25-40 and figure 1));

Hlasny discloses where, if voice service is provided between the first device and the second device, the frame structure further includes at least one time slot suitable for communicating isochronous information utilizing a TDMA protocol **(figure 3 of SWAP spec 1.2 shows the frame adding isochronous time slots and a synchronization beacon when voice is provided; page 6 line 2 discloses the system moves to a 10 ms subframe structure whenever there are active voice connections)**; and

Hlasny discloses where, if voice service is not provided between the first device and the second device, the frame structure further includes a WDCT control channel suitable for controlling devices of the cordless communication system requiring voice service **(A connection point must utilize a channel in the frame to notify or be notified when a node requests to have a voice connection. Hlasny discloses a beacon 42 that is used to maintain correct timing of the system. A node will constantly monitor the beacon to sync up. The beacon is transmitted in every frame even if the frame contains no data; col 4 lines 28-65)**.

Hlasny fails to expressly disclose the exchanging of isochronous information using a WDCT protocol.

Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the**

WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) forma t to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 13** Hlasny discloses where the WDCT control channel is disposed at the end of the frame structure **(Beacon 42 will vary depending on the status of the frame and the amount of voice channels and data channels. The beacon will be updated every new frame; col 4 lines 42-67 of Hlasny)**. Hlasny fails to expressly disclose where the control channel is a WDCT control channel. Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) forma t to exchange isochronous/voice communication in the SWAP

frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 18-20** Hlasny further fails to disclose comprising altering the carrier frequency of the air interface from the SWAP carrier frequency, bandwidth, and bit rate to a WDCT carrier frequency, bandwidth, and bit rate, respectively when at least one of a WDCT control channel and a WDCT time slot are transmitted. **(Wright discloses the use of a specific carrier frequency, bandwidth, and bit rate when transmitting voice in the DCT system. Wright discloses DCT transmission system uses a plurality of individual carrier signals with a certain bandwidth and a time slot length; see col 1 lines 48-67 and col 2 lines 1-4. When transmitting voice channels, the SWAP frame must accommodate the time slots to the DCT format)** It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) forma t to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 21** Hlasny discloses where transmitting at least one frame suitable for containing data information further comprises transmitting the WDCT control channel at the end of each frame **(Hlasny discloses a beacon 42 that is used to maintain correct timing of the system. A node will constantly monitor the beacon to sync up. The beacon is transmitted in every frame even if the frame contains no data; col 4 lines 28-65)**. Hlasny fails to expressly disclose where the control channel is a WDCT control channel. Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) forma t to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Regarding **claim 22** Hlasny discloses where transmitting the WDCT dummy bearer at the end of the SWAP frame structure comprises transmitting the WDCT control channel approximately every 20 mobile station **(The beacon will be updated every new frame;**

col 4 lines 42-67. Each new frame is 20 ms see figure 3 of the SWAP spec 1.2). Hlasny fails to expressly disclose where the control channel is a WDCT control channel. Wright discloses a wireless telephone system that utilizes the Digital Cordless Telephone system **(see col 4 lines 53-64; the DCT is interpreted to be similar to the WDCT system since DCT uses a TDMA/SS (spread spectrum) and time division duplex scheme to enable a more efficient voice communication; col 1 lines 35-57).**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hlasny's SWAP embodiment to utilize a Digital Cordless Telephone (DCT) forma t to exchange isochronous/voice communication in the SWAP frame, as taught by Wright. The motivation is a trend towards next generation systems that are more reliable, producing less interference and noise in wireless voice communication compared to prior schemes, as explained by Wright on column 1 lines 30-41.

Allowable Subject Matter

4. **Claims 8-11** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claim 8** the cited references taken individually or in combination fails to particularly disclose the combination of where <u>if no isochronous information is to be transmitted within the frame structure, the frame structure is formatted to include in order a hop command, a beacon, a SWAP period suitable for transmission of</u>

asynchronous transmission, and a WDCT control channel suitable for controlling devices of the cordless communication system using voice service.

Regarding **claim 9** the cited references taken individually or in combination fails to particularly disclose the combination of where if isochronous information is to be transmitted within the frame structure, the frame structure is formatted to include in order a hop command, a first WDCT transmit slot, a beacon, a first SWAP period, a first WDCT receive slot, a second SWAP period, a second WDCT transmit slot, a third SWAP period, a second WDCT receive slot, and a fourth SWAP period.

Regarding **claim 11** the cited references taken individually or in combination fails to particularly disclose the combination of where if isochronous information is to be transmitted within the frame structure, the frame structure is formatted to include in order a hop command, a first WDCT transmit slot, a first WDCT receive slot, a beacon, a first SWAP period, a second WDCT transmit slot, a second WDCT receive slot, and a second SWAP period.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to wireless communication systems utilizing the HomeRF SWAP:

US Patent (6,633,757) to Hermann et al

US Patent (6,690,657) to Lau et al

The following patents are cited to show the state of the art with respect to wireless communication systems utilizing the DCT

US Patent (6,728,321) to Neubauer et al

US Publication (2001/0055954 A1) to Cheng

US Patent (6,731,945) to Do et al

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 703-305-0369. The examiner can normally be reached on 9am-6pm ET, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN
June 10, 2004

JOHN PEZZLO
PRIMARY EXAMINER